

### **REMARKS**

The Applicants thank the Examiner for the careful consideration of this application. The Office Action dated August 25, 2010 has been received and its contents carefully considered. Claims 1-22 and 25-26 are currently pending in this application. Claim 17 is editorially edited. New claims 25-26 are supported, for example, by original claims 2, 9, and 16, and on page 5, lines 5-6, and page 7, lines 1-2 and 6 of the specification. Based on the foregoing amendments and the following remarks, the Applicants respectfully request that the Examiner reconsider all outstanding rejections and that they be withdrawn.

#### **Statement of the Substance of the Interview**

Applicants thank Examiner Breval and Examiner Won for the personal interview on December 3, 2010. In response, Applicants submit the following Statement of the Substance of the Interview.

**Participants:** (1) Examiner Elmito Breval, (2) Examiner Bumsuk Won, (3) Michael E. Nelson (Applicants' Representative), and (4) Steve Schwarz (Applicants' Representative)

**Date of Interview:** December 3, 2010

**Type:** In-person

**A) Brief Description of the Nature of any Exhibit Shown or any Demonstration Conducted:**

None.

**B) Identification of the Claims Discussed:** 1 and 17.

**C) Identification of Specific Prior Art Discussed:** U.S. Patent No. 6,267,636

**D) Identification of the Principal Proposed Amendments of a Substantive Nature:** None

**E) Substance of Interview:** Claims 1 and 17 were discussed in light of the rejection based on U.S. Patent No. 6,267,636. Specifically, Applicants' representatives indicated how the reference fails to teach or suggest a device where "the light emitting device generates light at the junction"

**F) Other Pertinent Matters Discussed:** None.

**G) General Results or Outcome of the Interview:** Agreement was reached that the applied reference did not appear to teach "the light emitting device generates light at the junction."

**Claim Rejection – 35 U.S.C. § 102**

On pages 2-4, the Office Action rejects claims 1-2, 6-7, 9-11, and 16-18 under 35 U.S.C. § 102(b) as allegedly anticipated by Saito et al. (U.S. 6,267,637). Applicants respectfully traverse.

As to claim 1, Saito et al. does not teach or reasonably suggest all the features of claim 1 for at least the following two reasons.

First, Saito et al. does not teach or reasonably disclose "wherein the light emitting device generates light at the junction," as required by claim 1. As discussed above, during the interview, the Examiners agreed that Saito et al. fails to teach or reasonably disclose this recitation of claim 1. In rejecting claim 1, the Office Action aligned these features with Figure 11.

In Figure 11, described in column 11, lines 1-26, Saito et al. describes a display having an electron emitting element 20, a protrusion 26, a surface region 26', and a phosphor PE (see Saito et al., Figure 11, and column 11, lines 1-2, 8, 15-16, and 20-23). The Office Action aligned protrusion 26 with the claimed "cathode having an electron emission face made of diamond" and surface region 26' with the claimed "another element." Surface region 26' is a portion of protrusion 26 doped with impurities such as As, B, N, and P (see Saito et al., column 11, lines 15-16). The Office Action appears to interpret the boundary between undoped regions of protrusion 26 and doped surface regions 26' as the junction between these two regions. The Office Action asserts that the "light emitting device (20) generates light at the junction" (see Office Action, page 3, line 2). The Office Action aligned electron emitting element 20 with the claimed light emitting device. Electron-emitting element 20, however, does not emit light, but instead emits electrons, denoted by symbol "e" in Figure 11. Instead, light is emitted when the electrons emitted by electron emitting element 20 impinge on the phosphor PE (see Saito et al., Figure 11 and column 11, lines 18-20). Thus, electron emitting element 20 (aligned with the claimed light emitting device), described by Saito et al., in Figure 11 does not emit light from "the junction" formed between the protrusion 26 and surface region 26'. Instead, electron emitting element 20, described by Saito et al., emits electrons from protrusion 26 that impinge on a phosphor PE. Phosphor PE then emits light. No light is emitted from the junction between protrusion 26 and surface region 26'.

For at least this reason, Saito et al. does not teach all the features of claim 1. As was agreed to by the Examiners during the interview discussed above, claim 1 is allowable over Saito et al. Applicants respectfully request the rejection be withdrawn.

Second, Saito et al. does not teach or reasonably disclose "at least a portion of the light irradiates through the cathode toward the electron emission face" of the cathode, as required by claim 1. In rejecting claim 1, the Office Action aligned these features with Figure 11.

As discussed above, the device described in Figure 11 of Saito et al. emits light only from phosphor PE. Light is not emitted through protrusion 26 (aligned by the Office Action with the recited cathode) toward an electron emission face of protrusion 26. Instead, light emitted from phosphor PE passes through one of color filters R, G, and B (see Saito et al., column 11, lines 20-23). Thus, Saito et al. fails to teach "at least a portion of the light irradiates through the cathode towards the electron emission face" of the cathode.

For at least this reason, Saito et al. does not teach all the features of claim 1. Applicants respectfully request the rejection be withdrawn.

Claims 2, 6-7, and 9-16 all depend, directly or indirectly from claim 1, and are allowable for at least the same reasons as claim 1.

As to independent claim 17, Saito et al. does not teach or reasonably suggest all the features of claim 17 for at least the reasons set forth above for claim 1. In particular, claim 17 recites "the light emitting device generates light at the junction and at least a portion of the light irradiates through the cathode toward the anode." As discussed above, during the interview, the Examiners agreed that claim 17 was allowable over Saito et al. Applicants respectfully request the rejection be withdrawn.

Claim 18 depends from claim 17, and is allowable for at least the same reasons as claim 17. Applicants respectfully request the rejections be withdrawn.

**Claim Rejection - 35 U.S.C. §103(a)**

On pages 5-7, the Office Action rejects claims 3-5, 8-15, and 20-22 under 35 U.S.C. §103(a) as allegedly obvious over the combination of Saito et al. (U.S. 6,267,637) in view of Hirabayashi (U.S. 5,541,423).

Applicants note that claims 9-11 are not discussed on pages 5-7 with regards to the combination of Saito et al. and Hirabayashi. Applicants request that the rejection of claims 9-11 under 35 U.S.C. §103(a) be withdrawn.

Furthermore, claims 3-5, 8-15, and 20-22 all depend, directly or indirectly from claim 1. Hirabayashi does not cure the deficiencies of Saito et al. Therefore, claims 3-5, 8-15, and 20-22 are allowable for at least the same reasons as claim 1. Applicants respectfully request the rejections be withdrawn.

On page 7, the Office Action rejects claim 19 under 35 U.S.C. §103(a) as allegedly obvious over the combination of Saito et al. (U.S. 6,267,637) in view of Xie et al. (U.S. 6,204,597).

Claim 19 depends from claim 17. Xie et al. does not cure the deficiencies of Saito et al., discussed above. Therefore, claim 19 is allowable for at least the same reasons as claim 17. Applicants respectfully request the rejections be withdrawn.

**Conclusion**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

The Commissioner is authorized to charge any deficiency in any patent application processing fees pursuant to 37 CFR § 1.17, including extension of time fees pursuant to 37 CFR §

1.17(a)-(d), associated with this communication and to credit any excess payment to Deposit Account No. 22-0261.

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Respectfully submitted,

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